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ABSTRACT

A working party of representatives from the Federal Republic of Germany, France, Norway, Switzerland, and the United Kingdom, visited five capitals to hear accounts of noteworthy innovations or experiments at the tertiary (post secondary) level of education. Diversification as opposed to expansion is currently being tried in many countries because of the traditional university's lack of pedagogical leadership. The working party wished to investigate this trend, particularly on the following points: new types of institutions, problems of mobility between one institution and another, guidance for students, access to tertiary education, training and recruitment of university teachers, planning concepts at the university and national levels, and curricular reform and development. In the first part of their report the aims, resources, and implication of diversification are explored. This theoretical discussion is illustrated with case studies in the second part, which also includes the members' reactions to the fundamental issues involved. Recommendations from the working party include the monitoring of ongoing experiments and continued research into tertiary educational experiments for the benefit of all the member nations. (JH)

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DIVERSIFICATION OF TERTIARY EDUCATION

Report of the Working Party set up under the auspices of the Committee for Higher Education and Research

presented by the Rapporteur :

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Council for Cultural Co-operation
Council of Europe
Strasbourg

1974

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In educational matters, the aim of the Council for Cultural Co-operation (CCC) is to help to create conditions in which the right educational opportunities are available to young Europeans whatever their background or level of academic accomplishment, and to facilitate their adjustment to changing political and social conditions. This entails in particular a greater rationalisation of the complex educational process. Attention is paid to all influences bearing on the acquisition of knowledge, from home television to advanced research ; from the organisation of youth centres to the improvement of teacher training. The countries concerned will thereby be able to benefit from the experiences of their neighbours in the planning and reform of structures, curricula and methods in all branches of education.

Since 1963 the CCC has been publishing, in English and French, a series of works of general interest entitled "Education in Europe", which records the results of expert studies and intergovernmental investigations conducted within the framework of its programme. A list of these publications will be found at the end of the volume.

Some of the volumes in this series have been published in French by Armand Colin of Paris and in English by Harraps of London.

These works are being supplemented by a series of "companion volumes" of a more specialised nature to which the present study belongs.

G e n e r a l E d i t o r :

The Director of Education and of Cultural and Scientific Affairs, Council of Europe, Strasbourg (France).

The opinions expressed in these studies are not to be regarded as reflecting the policy of individual governments or of the Committee of Ministers of the Council of Europe.

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FOREWORD

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The growing number of students at tertiary level and the expanding higher education budget make it necessary today both to create new educational courses and to distribute available resources more effectively.

Conscious of the urgency of this problem, the Committee for Higher Education and Research adopted, at its 22nd session on 14-16 October 1970, an initial draft Work Programme for 1972 which provided for the setting up of a Working Party on Diversification of Tertiary Education. At the close of their 7th Conference, held in Brussels on 8-10 June 1971, the European Ministers of Education, laid particular stress on the need for diversification in their Resolution No. 1. At the 20th session of the CCC (17-23 September 1971) the 1972 programme of activities was adopted, including the creation of a working party with specific instructions to assess the results of various national experiments carried out in the field of tertiary education in France, the Federal Republic of Germany, Norway, Switzerland and the United Kingdom, to compare emerging trends and the different solutions already adopted or being considered and to report to the Committee for Higher Education and Research. It goes without saying that their role was not to reccommend a standard pattern for the structure and organisation of tertiary education in Europe, but to identify alternative solutions and provide governments with information to guide them in their decisions.

The first meeting of the working party, held in Paris on 23 and 24 November 1971, was devoted partly to working methods and partly to hearing about the French system of higher education, a subject which will be dealt with later. The working party's members (see appended list) decided to visit the 5 capitals, hear oral accounts of 4 of 5 noteworthy innovations or experiments being conducted in the countries concerned and subject them to critical scrutiny by means of discussion with representatives of these countries. Thereafter the would draw up a consolidated report intended for the Ministers of Education, universities and other interested parties. The following subjects for discussion were chosen :

- the diversification and integration of the different sectors of tertiary education :
  - . the creation of new types of institution ;
  - . the problem of mobility between one sector and another ;
  - . the guidance and counselling of students ;
  - . access to tertiary education ;
  - . the training and recruitment of university teachers;
- planning concepts for tertiary education (at university and national level (institutional autonomy)).
- curricular reform and development.

In view of the time set aside for each meeting and of the complexity of the problems, the working party did not study the whole range of questions in each country consulted. It tried instead to single out the characteristic features of each one and pinpoint the methods adopted or proposed by different national authorities for solving identical problems. It should not be forgotten, moreover, that educational innovation involves long-term activities, which explains why this report is merely concerned with evaluating trends. In accordance with its chosen working methods, the working party met on seven occasions : twice in Paris, once in Karksruhe, Oslo and London and finally twice in Bern, the last meeting being devoted to an internal discussion of the layout of this report. In the course of their various visits the members heard, as planned, a large number of talks by representatives of the host countries (see appended list) and held very frank discussions on general problems common to all the countries concerned as well as questions specific to each one. In addition, several visits were organised enabling certain new establishments to be more closely inspected : eg the Rogaland Distriktsøgskole (Regional College) at Stavanger in Norway and the Open University at Milton Keynes in the United Kingdom. Mention must also be made here of the receptive approach and objective frank attitude observed throughout the working party's activities, due perhaps to its limited membership. The members wish to take this opportunity to thank the governmental and university authorities in the five host countries, whose support greatly facilitated their work. They are particularly grateful to all the speakers and lecturers, whose talks were frequently followed by lengthy "cross-examinations".

Of course the working party plays only a very minor part in the total activities of the Committee for Higher Education and Research. As stated above, it was instructed to study the concept of diversification on the basis of several concrete examples. It was by no means expected to consider the whole of the highly complex field of higher education reform. The Committee itself organises symposia from time to time in member countries, at each of which noteworthy reform projects conducted in the host country are compared with national experiments elsewhere (eg : the symposium on university reform in Germany, held at Bad Godesberg in 1970).

These, however, have a large attendance and the discussions are therefore not as spontaneous and fruitful as in a small working party. Moreover, such large meetings take place at infrequent intervals, so that they cannot constitute a whole and the continuity of the work is broken. In addition to the activities so far referred to, the committee examines particular problems by means of commissioned studies, special meetings of experts and the establishment of other working parties ; among the problems it is at present dealing with are participation, staff structure, the mobility of students and teachers, the equivalence of diplomas, the reform of particular curricula such as medicine, dentistry and pharmacy, educational technology and access to universities. Nevertheless, the working party would seem to have been one of the committee's principal activities. Its findings should, moreover, influence the work planned in connection with other future or current projects.

Finally, the task of the working party should not be confused with the country-by-country reports prepared by OECD. The working party was not expected to report on the whole education system of each country visited and assess progress achieved. It has confined itself to a summary analysis and a straightforward comparison of different solutions to a number of problems which - in its view - seemed to be common to all the countries visited, indicative of major trends of evolution and such that the solution of them might facilitate scientific and educational exchange in Europe.

1. INTRODUCTION

As mentioned at the beginning of the foreword, the evolution of modern society calls for a rethinking of the function of tertiary education and its aims and objectives, its methods and its means in the light of new data and new requirements. An ever growing demand with needs new both in nature and quality, must be satisfied by today's higher education system ; the number of students is going up and there is an increasing tendency to give greater consideration to individual motivation, aptitudes and capacity for initiative.

Society's need for citizens with different types of training and ability also exercises a great influence on demand. This demand for higher training has to contend with limited resources which must be wisely allocated. It very soon became apparent that this problem of growth could not be solved merely by enlarging existing institutions. Traditional universities have met with numerous criticisms, for example, that they neglect new fields of study, pay little heed to educational aspects and have done too little in the field of recurrent education and part-time education ; they are also blamed for holding aloof too much from the problems of practical living. For this reason it was decided to develop the non-university sector of higher education. Three ways of diversifying expansion are currently being tried.

- the binary-system adopted by the United-Kingdom, which is to develop the non-university sector independently of universites in the strict sense ;

- expansion of the non-university sector in conjunction with development of the universities (the regional colleges in Norway) ;

- a diversified integrated system of the type now being tried out in some parts of the Federal Republic of Germany (the comprehensive university) ;

- The general development of a system of permanent education in France which results in diversifying vocational training programmes both outside and inside the universities.

During its visits the working party endeavoured to study the special reasons which had induced particular countries to diversify their education systems as well as the models adopted. It is aware that no single ideal system applicable to all countries can be found and that diversification depends on cultural, political, economic and geographical factors specific to each one.

The first part of this report seeks to define diversification of tertiary education and to establish its aims, resources and implications. The approach is thus theoretical on the whole.

The aim of the second part is to illustrate the previously expounded theory by means of case-studies compiled by members. It also includes the working party's comments on fundamental issues connected with the national experiments.

2. THE DIVERSIFICATION OF TERTIARY EDUCATION : ITS AIMS, RESOURCES AND IMPLICATIONS

An education system is said to be diversified if it comprises sub-systems designed to satisfy different training needs and aims, using various categories of resources and methods. In tertiary education, diversification generally implies combining subjects separated hitherto and including subjects or branches of study which did not formerly exist in universities or other higher education establishments. It necessitates new teaching methods and techniques and implies the introduction of new standards of qualification and lowering of the institutional barriers separating very advanced from less advanced levels of training. A system of education may (and even should be) both diversified and integrated at the same time.

2.1. Diversification of the aims of tertiary education

The diversification of tertiary education is apparent first and foremost in the diversification of its aims, that is to say the reasons which lead a particular society to opt for and maintain a particular education system. The university has to contribute to the development of knowledge and culture. This implies not only seeking after truth, beauty and ethics but also enabling citizens to understand and to mould a society which incorporates the values and knowledge they have acquired. To achieve this aim, using moreover the environment which it itself creates - we thus have reciprocity - tertiary education promotes development of the individual personality. A third aim should be mentioned which is to adapt the education offered to the needs of employers both by developing vocational training and by conceiving ways of training which will later allow the student to adapt himself to any transformation of his field of employment.

Finally, leaving aside the professional aspect there are numerous activities in contemporary society which have to be performed by persons with higher education. These four aims are not mutually exclusive : on the contrary, they all depend on each other. Nor are they mentioned here in any order of importance. Their respective significance does however vary from one sector of tertiary education to another and from one student group to another. In this context the importance of combining both teaching and research at least at the more advanced levels, but perhaps event in the whole sector of higher education, must be stressed.

The aims mentioned necessitate a very clear specification of these ways and modalities of study and an efficient system of student guidance as well as admission procedures which reinforce the system of guidance and avoid the risk, grave for both the individual and for society, of making a seriously wrong choice ; they allow different admission selection procedures and they exercise a decisive influence on the educational policy applied by institutions and their departments. To distinguish one from another does not obviate the need to create new courses and rethink the content of existing ones.

2.2. The diversity of objectives of education in the strict sense

The diversity of the aims of tertiary education, the numerous talents aptitudes and motivations of students and the many demands of social and professional life give rise to a wide variety of specific educational objectives. These objectives depend on the demands of, for example, training for a career in research of teaching at different levels. They must also satisfy the variable requirements of other professions in society which presuppose more or less specialised knowledge and differing attitudes, as well as those of a "liberal" education. Making a distinction

between the various objectives of tertiary education does not however imply that they should be pursued by distinct and separate teaching institutions or achieved by means of completely different courses.

2.3. The varied clientèle of tertiary education

A diversified higher education system takes for granted a diversified clientèle. Tertiary education is no longer merely for young students passing without interruption from the secondary to the higher stage : it is also intended for older persons, who are trying to improve their fortunes, equip themselves for some new occupation or line of study or change their life styles. The student population may include individuals with or without professional experience, engaged in full-time or part-time study and with satisfactory, unsatisfactory or incomplete previous education.

2.4. The diversity of means

The diversification of aims, objectives and students dictates diversity of means.

The first thing is to diversify the curricula, which will be specialised, multidisciplinary or interdisciplinary. The combination between study courses of an abstract or an operational nature, or an analytical or synthetical nature, of a descriptive nature, or theoretical nature, the educational concept, all these must be conceived according to different publics and according to the objectives pursued.

Stress will be laid on either the descriptive or the more abstract aspect of the various courses, which will adopt now an analytical and practical approach. The degree to which courses are compulsory or optional will vary. Curricula will be developed to satisfy the requirements of recurrent or permanent education.

Courses of study may vary in duration : short courses will be introduced. Periods of academic studies are followed by periods of professional activity and again by periods of study and so on.

More and more thought must be given to new teaching methods including those which make use of technological innovation such as distant study multi-media systems, making it possible for the student to organise his work according to his personal needs.

Institutions will also be varied : certain establishments will tend to specialise in teaching in the conventional sense, while others will be concerned with the problems of introducing mass media instruction, etc.

The necessary funds will come from different sources : the state, the students, industry, individual contributions, other cultural bodies, etc.

2.5. The possible roles of the teacher

In a diversified system, the accent should be put not only on research or teaching. The teachers are also contributing to the development of the institutions of tertiary education ; the extent of their contribution will vary in each particular case but as a whole their contribution will meet the research needs of any branch of higher education.

The teaching staff will be increasingly expected to contribute to the learning process of the students, particularly by offering advice in conjunction with programmed instruction or by preparing correspondence courses and educational television programmes.

2.6. The strategic, political and organisational implications of diversification

The creation and operation of a diversified and integrated system of tertiary education presupposes the taking of strategic, political and organisational measures. The development of the system will be ensured by a procedure kept under constant review. This will consist primarily in strategic planning, which considers the system as a whole and which could also take account of the changes in the environment as a whole. Overall guidelines will have to be laid down which correspond to the development of society, thus stimulating innovation and the setting up of structures. The precise definition of objectives and a thorough analysis of the situation should provide a foundation for devising reforms and designed to stimulate the system's more or less autonomous components and redefine their aims and activities in the light of actual experience. The next step is to implement the proposed reforms and apply the chosen measures periodically assessing the results obtained and, where necessary, formulating anew objectives and reform procedures.

Diversification can be organised at various levels according to the conditions offered in the states concerned. Diversification may be achieved through a central national or regional system, with distinct types of institution, each fulfilling one or more specific functions. Another possibility is to introduce diversification in particular teaching establishments, each performing the complete range of higher education functions. Within such comprehensive institutions, the various functions can be assumed by more or less autonomous structural units.

In order to promote the development of a diversified system it is necessary to reduce the influence and importance of the traditional forces which frequently stand in its way. The following may be quoted as examples :

- research workers enjoy greater prestige than ordinary teachers and their career prospects are better ;
- universities benefit from traditional prestige which is denied to non-university institutions ;
- short courses of study are thought to offer much poorer professional prospects than long ones ;
- costs and benefits, in the broadest sense, are not equally distributed among the various sectors of the system.

With regard to this last point, it is obvious that the phenomenon of cost-benefit disparity between sectors is inherent in any diversified system ; but such disparity does not necessarily signify a difference in the social estimation of the various sectors. One should therefore attach less importance to the purely formal prestige of certain institutions, of certain activities, and make known the quality of other innovatory institutions which might progressively reach a level conferring upon them even the highest prestige.

In so far as the achievement of aims depends on government funds, measures of a financial nature play a key role in the operation of an integrated diversified system. The ease of running such a system will depend, for example, on whether or not, and if so how, the state exercises control over staff teaching assignment and research opportunities. The government will support only those developments and projects which contribute to diversification.

If it is desired to create and maintain an integrated and diversified system of tertiary education, consideration has to be given to the bodies which are to take responsibility for it. The universities and other higher education institutions cannot be expected to take the initiative, without outside influence, in setting up such a system. If diversfication is an integral part of the system, it is especially vital for a central body to ensure co-ordination and the direction of operations. In the majority of European countries, this responsibility has hitherto been taken by the government.

In countries where higher education enjoys greater autonomy, however, the tasks of co-ordination must be assumed by bodies outside the government.

On the other hand, when diversification occurs within institutions, the burden of responsibility for applying the relevant measures lies with them ; this does not however prevent the government or other central bodies from playing an important part.

In a diversified system of tertiary education, provision should be made to enable students to make an informed choice of courses in those branches which correspond to their aspirations, capabilities and motivations to known social needs and job opportunities. There should be a guidance and counselling service to inform prospective students, prior to their entry to the post-secondary stage, about courses, career prospects and chances of success. With regard to admission requirements these will vary according to whether greater priority is given to equality of individual opportunities or to institutional considerations : ensuring high educational standards, limiting student wastage, restricting costs, etc. If precedence is given to the need to secure equality of opportunity, there will be a generous admission policy and selection will take place subsequently within the system itself. Finally, it should be remembered that a diversified system has the advantage of allowing students to correct their choices in the course of their studies with minimum loss of time : opportunities should therefore be provided for transition from one course of study to another, in conjunction with a unit/credit system.

One problem which appears difficult to solve in the context of a diversified system is that of research policy. The main question is what position research should occupy in such a system. In view of the prestige of research activities, there is a risk that every institution and every teacher will be tempted to devote time to such work, placing an extremely wide interpretation on resaerch. According to the traditional university definition of the research function, it is a systematic activity directed to the discovery of new knowledge. With a system of mass higher education, society will necessarily not be able or willing to bear the cost involved in expanding research activities in proportion to the expansion of teaching. Nor could it easily be claimed that all the teachers in the system would be sufficiently qualified and motivated to conduct research as defined above. Furthermore, it is not essential for teachers to be mainly engaged in research activities. In a system where the accent is after all laid.

Is is essential that as a whole the system of higher education fufils its research obligations without giving up its teaching function and related functions and that it is flexible enough to produce research efforts both in time in space and to attribute diversified tasks in research according to the abilities of each individual teacher, the phases of his career and the objectives pursued. A deliberate policy is required to allocate research among the various sectors and preserve its significance by institutional means.

Although the working party's terms of reference referred essentially to the problem of diversification in tertiary education, it continually bore in mind the interdependence between this stage in education and the secondary stage. There is no doubt that any scheme in the field of higher education will achieve results only if the pre-tertiary system is reformed. In order to avoid creating a harmful and artifical dichotomy in the future, education will have to be treated as a comprehensive whole.

3. COMMENTS BY THE WORKING PARTY ON CERTAIN FUNDAMENTAL QUESTIONS IN THE LIGHT OF THE VARIOUS NATIONAL SCHEMES

During its round of visits, the working party limited its discussions as far as possible to the list of subjects if had drawn up at the outset. This report attempts to set out its comments. It is assumed that the reader is more or less familiar with the majority of the schemes being conducted in the five countries concerned, which have been studied by other Council of Europe working parties or other international organisations. The aim of this chapter is therefore not to describe in detail the arrangements adopted by these countries but to compare possible solutions to identical problems, identify the factors which induced a particular country to choose one solution rather than another and pinpoint certain dangers encountered, while relating all this, if possible, to the "theory" of diversification.

3.1. The diversification and integration of the different sectors of tertiary education

There are 3 possible models for the diversification of tertiary education :

The binary model adopted by the United Kingdom, which consists in developing the non-university sectors, such as the Polytechnics, Colleges of Education and some other institutions of advanced further education, alongside the traditional universities. It emerged from the discussions that this system should be seen as an attempt to deal with certain requirements specific to the United Kingdom. One of the reasons behind it is a desire to develop education at local, regional and national levels simultaneously. It should be remembered that many colleges have grown up in close connection with local authorities and industries. It is also held to be essential to leave responsibility for education as far as possible in the hands of the local authorities. Attempts at a full integration of degree level work would result in an artificial division within some colleges where only a proportion of studies is at that level. In the opinion of the working party it would appear however that the basic reasons for the choice of this system are not educational but financial and administrative. Rigid separation of the 2 branches of tertiary education might encourage non-university institutions to try to achieve university standard at all costs in so doing they would merely become poor imitations as well as neglecting the specific tasks assigned to them. In spite of the introduction and maintenance of the binary system, some co-ordination between universities and non-university establishments does exist at local and regional level, though at national level it seems inadequate. For the United Kingdom authorities the main concern is to encourage greater diversification of courses intended for different categories of students ; one need is to arrive at a better distribution of resources among subjects. Whether these courses are offered within a binary or a more or less integrated system is considered to be of secondary importance.

Another model of diversification takes the form of the expansion of the non-university sector in relation to the development of the universities, but without there being total integration. This is the pattern adopted by Norway, where several Regional Colleges have been created and other non-university colleges developed, The Norwegian authorities draw attention to the special situation of their country, its small size and low population. They are aware that the solution they have so far adopted does not necessarily suit other countries. Moreover, they point out that this scheme is very recent and that it is no doubt too early to pass final judgement on the results. During its visit, the working party investigated the merits of such semi-integration. The subjects taught at the Regional Colleges are generally modern

ones, such as petroleum engineering, the social sciences and business management. One of the questions still to be answered is whether the universities will continue to leave these new subjects to the Regional Colleges. The latter also seem to have considerable political backing : is there not a risk of rivalry eventually growing up between the universities and the Regional Colleges in, for example, the securing of funds ? A further question considered was whether there might be a danger of the Regional Colleges, contrary to their intended purpose, coming to regard the universities as old-fashioned and being more ambitious than them. Complete integration of 2 types of higher education might have been preferable. In response to this, it was stated that - although the scheme was admittedly a recent one - hardly any competition or rivalry between universities and Regional Colleges had been observed so far, at least not in thoses fields where the Regional Colleges are offering something different from the universities, namely in the two-year study courses.

On the other hand, the regional colleges are also offering one-year courses in university subjects parallel to some courses given by the universities. In this field, the relationship between university and Regicnal Colleges is less relaxed, although much is still unclear.

Both the universities and the Regional Colleges form part of the same system of tertiary education. It is most unlikely that the Regional Colleges will try to do better than the universities. Obviously the universities are getting interested in the new subjects and the Regional Colleges, on their part, are showing an interest in the traditional university subjects. This fact, combined with the further expansion of the Regional Colleges, might result in some healthy competition. But in general, there is such an overwhelming pressure on the universities from students seeking higher education, that the universities have reluctantly welcomed the relief given by the Regional Colleges even in the traditional university

This solution of semi-integration had also partly been chosen to meet the particular needs of certains regions. This brings us to the problem of the geographical dssbritubion of tertiary education establishments, which will be dealt with in greater detail later.

The third model of diversification consists in setting up an integrated, diversified system after the pattern now being tried out in some parts of the Federal Republic of Germany ("Gesamthochschulen") (1) by designating "education regions" within which the various higher education establishments are fully integrated if possible and by adopting an interdisciplinary approach (tradition and technical universities, nigher teacher training colleges, engineering schools and other tertiary-level schools). This new concept, which is only just beginning to be implemented, comprises 3 phases. To begin with, there is intensified co-ordination of the activities of the various autonomous establishments in a given geographical region. The next step is to create joint bodies, while preserving the independence of the various establishments. Then comes the setting up of a fully integrated comprehensive university. In the course of this scheme numerous problems emerge. For one thing, the traditional university has to be prevented from claiming a monopoly of higher education. Comprehensive solutions should not be forced upon the various institutions but should result from reciprocal agreement. The place of research in such a system still appears rather ill-defined. The composition and functions of the teaching

(1) The Federal Government is in favour of the integrated "Gesamthochschule" but so far only a few pilot experiments have been launched : five in North Rhine-Westphalia (Duisburg, Essen, Paderborn, Siegen and Wuppertal), one in Bavaria (Bamberg) and one in Hesse (Kassel). Based on first experience with this new type, some of the Länder and universities are becoming somewhat reluctant. From discussions a trend towards increased transfer possibilities within a co-opeative system seems to emerge.

staff raise problems of a structural and hierarchical nature. Nor has any solution been found to the question of the level of studies in certain institutions or to that of the degrees which may be awarded. Furthermore, in the face of integrated diversification at regional level, consideration must also be given to co-ordination at national level.

In conclusion, the working party wishes to point out that whatever system of diversification is chosen, care must be taken to ensure that it offers high-standard courses for highly able students : diversification does not mean levelling down.

3.1.1. The creation of new types of establishments or the adaptation and transformation of existing ones.

In some countries, before any thought could be given to creating a new type of institution, the existing system had to be adapted and reorganised. This was the case in France, where 3 arrangements were adopted to solve the problem of university education for the masses. One was to take the traditional faculties, divide them up and rearrange the various components to form a separate new university (Paris). Another was to combine several formerly isolated establishments or departments into a new institution (provinces). The third was to create some completely new establishments (Paris-Dauphiné, Paris-Vincennes, University of Compiègne). Although multidisciplinarity is frequently spoken of in France, the working party wondered whether the majority of the new universities in the Paris area did not, taken individually offer too restricted a range of subjects : a student who wants to change his subjects at the end of his first year is obliged to change university. The authorities are aware of this difficulty, but for technical reasons (lack of suitable premises, for example) it is not always possible to centralise subjects to the extent desired. When analysing this reform, the experts noted the differences between this conception and the German approach, which is based on the 3 following principles : in cases where major universities need to be sub-divided, the new universities should offer a full course of studies (instead of only one or 2 levels), so that students can complete their studies at them ; the new universities should offer a wide variety of subjects : no one subject should be taught to more than 1,000 students.

The majority of the new types of courses created during recent years are short ones which are mainly geared to vocational needs and can be incorporated in the existing universities, as is the case with the French University Institutes of Technology (IUTS). These form part of the university and are of limited size, comprising 3 to 5 departments, each of which offers a "speciality" and caters for 150 students a year. The courses last 2 years and lead to the award of a national diploma. The aim of the IUTs is to train senior technicians and specialists for intermediate-grade managerial posts in industry or other branches of the economy. The working party wondered whether the availability of both long and short courses in the same establishment did not induce students to opt rather for the longer courses for reasons of prestige. It appears that the attraction of the IUTs' novelty has so far been strong enough to prevent such a trend. Nevertheless, there is a slight danger that certain circles may come to regard the IUTs as having the function of preparing students for the third year of traditional university education. Care will therefore have to be taken to restrict the number of students attending longer courses if the IUTs are to continue to serve their proper purpose. Moreover, it appears that many employers in industry do not know enough about IUT-trained students and their qualifications.

These new types of course may also be dispensed in institutions specially designed for the purpose, which are outside the universities but connected with them: examples of these are the above-mentioned Regional Colleges in Norway, which offer two-year courses with a vocational bias. Norway chose to set up such colleges separate from the universities because it considered that if they were attached to a university they would fail to acquire sufficient "personality" and might come to be considered as the first level of university education. Moreover, the risk of competition is lessened by the fact that the 2 categories of establishment offer different types of course (at least as regards the majority of the course). The aims and objectives of the Regional Colleges are numerous ; only a few will be mentioned here :

- supplying the various regions with experienced brains (curricula related to a region's activities) ;
- achieving a fairer distribution of resources invested in higher education ;
- increasing cross-fertilisation between higher education and society by developing recurrent education and part-time education ;
- acting as innovation centres ;
- developing student's personalities and critical faculties (instead of merely dispensing knowledge) ;
- stimulating reforms in other sectors of post-secondary education ;
- helping to break down barriers between the established professions.

The social prestige of the Regional Colleges seems to be equivalent to that of the universities. A large number of students therefore apply for entry to them.

In conclusion, it should be remembered that this scheme is a very recent one, the first colleges having been set up in 1969-70. When the working party mentioned how lightly the Norwegian authorities seem to have been treating - at least in the beginning - the problem inherent in such an enterprise, it was replied that enthusiasm was essential for getting such colleges under way ; difficulties would naturally arise in a few years' time.

It was the general opinion of the experts that higher education of the shorter type is useful only if it is accompanied by a well-organised system of recurrent education. In the case of the Regional Colleges, the working party noted that there was scarcely any provision of this kind for their graduates at present. It was not possible to make such provision immediately, as these short courses were instituted to meet an urgent demand, and there was no time to deal with the problem of recurrent education simultaneously. The Norwegian authorities propose to improve the facilities available in this connection. In France, on the other hand, the IUTs are already taking care of this aspect fairly systematically.

Finally, the new types of course may be given in institutions which are completely independent of the traditional universities. It was with this intention that the United Kingdom authorities set out to transform existing colleges or groups of colleges into post-secondary establishments of a new kind, viz Polytechnics. This scheme was based on the idea that the role of such establishments was essentially different from that of universities, and should remain so. They have been developed on a broad basis and offer a wide variety of possibilities, viz courses at the preliminary, degree and post-graduate levels, together with courses leading to professional qualifications. The courses often include a spell of practical work.

Studies may be done full-time, part-time or on a "sandwich" basis, as well as either during the day-time or in the evening. Although some courses are common to both universities and Polytechnics, the curricula of the latter clearly reflect a desire to prepare students for employment in industry, business or public service. The Polytechnics have so far proved capable of quickly responding to emerging needs by adapting to circumstances and applying the latest teaching techniques. Outside observers might imagine that the British binary system is gradually evolving towards an integrated system in which the Polytechnics will become more and more similar to universities. According to the British authorities, this would not be desirable. Certain more radical circles in the United Kingdom even consider that the Polytechnics offer a more flexible and appropriate form of tertiary education and deserve to be developed more fully than the universities, but on separate lines, with a reduction in the importance of the latter.

It seems unlikely, however, that the Polytechnics will ever enjoy the same prestige as the universities since the research opportunities they offer and the conditions of appointment and remuneration of their staffs are distinctly less attractive. But there is a view in the United Kingdom that the Polytechnics offer a more flexible and appropriate form of tertiary education and deserve to be developed more rapidly than the universities and on separate lines.

The question whether the Polytechnics will ever enjoy the same prestige as the universities, as the government would like, must be affected by the research opportunities they offer and the conditions of appointment and remuneration of their staffs, which are at present less attractive ; which in turn affect the quality of their teaching. The United Kingdom authorities have also thought of revising the curricula of College of Education (1) and broadening the spectrum of their courses. But it is hardly likely that they will be developed to the same degree as the Polytechnics. It would be desirable for both types of college to adopt a common educational policy and offer various joint courses. Finally, mention must be made of another new type of establishment, viz the Open University (2) which uses multi-media distant study systems consisting of correspondence material, TV and radio programmes, individual and group tuition and short residential courses. Although this establishment offers courses comparable to those of other universities, and has proved its worth in various fields since its foundation in 1969, it does not yet have any close relations with the conventional universities. In its early years, this was justified by various factors : for one thing, the experiment was a risky one, its outcome was unpredictable and it was viewed with considerable misgivings in some quarters, secondly once it began to gather impetus, precautions had to be taken to prevent the other universities from regarding it as a rival stifling its developments. However, a certain measure of co-ordination is now being established ; the traditional universities are, for instance, using some of the Open University's courses. Furthermore, it seems that the Open Universities teaching and study methods are having some impact on the methods used by the long-established universities. It might be considered desirable for the Open University to develop post-experience courses for the other universities, thus achieving a certain amount of integration. One of the questions raised by the Open University system is that of costs. The preparation and printing of courses material is expensive and time-consuming. It must therefore be realised that such a system can be contemplated only if it is intended for a large student population. In addition, the experts drew attention to the problem of updating courses and adapting them to new circumstances. In a traditional university, a teacher is supposed to revise his lectures in the light of advances in knowledge. In the Open University system however, which requires preparation and printing o. costly publications, it seems difficult to make the changes needed to keep courses up to date without being a major increase in expenses.

(1) See section 3.3.4. below.

(2) See docs CCC/EES (71) 44 and CCC/ESR (73) 67, 77 and 90.

A further factor is that, although certain individual or group courses are provided, students may sometimes suffer from a certain lack of direct contact with their tutors or fellow-students.

In Switzerland, consideration is being given to the creation of new types of establishment or the introduction of short courses. While the value of such measures is appreciated, the implementation stage has not yet been reached. This is no doubt due to the smallness of the universities. As for short courses in the true sense, thought is being given to developing the Higher Technical Schools (not to be confused with the 2 Federal Polytechnics Schools) and the Higher Schools of Administration and Economics, which would be made responsible for training intermediate managerial staff.

3.1.2. Mobility from one sector to another

A diversified system calls for opportunities for transfers from one sector to another, if possible in conjunction with a unit-credit system. Such mobility may be either horizontal (transfers from one sector to another of the same standard, or from one subject to another branch of study) or vertical (transfers from short to long courses). Thought must also be given to mobility for teachers.

As far as horizontal mobility is concerned, the example of the Federal Republic of Germany shows that student mobility has so far taken the form of transfers from one university to another rather than from one discipline to another within the same institution. Moreover, intermediate examinations already passed have rarely been taken into account for the purposes of futures studies. A large percentage of university students intending to enter the teaching profession have been leaving the universities to continue their studies at colleges of education. Although the courses at these colleges are shorter than university ones, the majority of the students in question have been unable to have their university studies taken into account. This is due to the fact that future teachers studying at a university must take two subjects at the same time and that the course structure differs from that of the colleges of education ; furthermore university studies do not comprise any educational (pedagogical) training. Students changing from a university to a college of education may, however, get a certain part of their studies recognised, if they have so far studied a subject which is also taught at primary and lower secondary schools (Grund- und Hauptschulen).

As regards transfer possibilities from colleges of advances technology (Fachhochschulen) to universities the situation is as follows :

a. Since 1970 graduates of all colleges of advanced technology (Fachhochschulen) may continue at any university ; graduates from an engineering college are no longer restricted to the technical universities, if they want to go on. The final diploma from a college of advanced technology (Fachhochschule) in thus considered equivalent to the upper secondary school leaving certificate (Abitur). Further requirements vary from Land to Land.

b. Graduates from colleges of advanced technology (Fachhochschulen) may obtain recognition of a certain part of their studies and their examinations by the university, if they continue in the same subject in which they have obtained the final diploma at the college. This applies in all the Länder In addition, some of the Länder make it even possible to recognise periods of study and parts of examinations for those who want to change their subject, provided that what has been done so far is related in some way to the requirements of the new subject.

c. In nearly all the Länder, students at colleges of advanced technology (Fachhochschulen) may pass over to a university after having completed their basic studies (one or two years), provided they remain within the same subject. The criteria - e.g. good marks in the intermediate examination - differ from Land to Land.

Under the new concept which is gradually taking shape in Germany, namely that of the "Gesamthochschule" (comprehensive integrated university); all arrangements aimed at facilitating transfers from one of these institutions to another are becoming obsolete, since full mobility is one of the concept's purposes. Easy transfer possibilities (horizontal mobility) are also one of the major principle of the Regional Colleges in Norway and the French IUTs. In Switzerland, efforts are being made to facilitate mobility among the cantonal universities, especially in French-speaking Switzerland.

The introduction of short courses (usually lasting 2 years) into tertiary education has given rise to the question as to whether or not a student who completes such a course should be able to undertake studies of the conventional type on that basis. This is a question of vertical mobility. The aim of short courses is, as already pointed out, to offer a new type of education more closely geared to vocational needs for the purpose of training intermediate managerial staff. If, however, the continuation of studies beyond that stage is greatly facilitated, the scheme is liable to lose its point. In the case of the Norwegian Regional Colleges, 15 to 20 % of students obtaining diplomas continue their studies at university (at least in business management ; for the other subjects no figures are yet available).

Everything possible is done to facilitate the transfer to university ; but it is not forgotten that the training given at the colleges is not intended as a preparation for university studies, and care is therefore taken to preserve the specific character of the colleges. The government, moreover, will carefully watch the development as regards the number of students entering the universities from the Regional Colleges. As for Norwegian universities themselves, their policy in this matter is not yet clearly defined. Since they enjoy autonomous status, they are legally free to decide whether or not to award credits for Regional College courses. In fact, they are showing increasing willingness to do so. In the long run, certain equivalences will be established, though today the situation still varies from one faculty to another. In France, the diploma awarded by an IUT is meant to lead to a professional career. Nevertheless, candidates who display special aptitude may be permitted to continue their studies at university. So far, 10 % have been going on to a more advanced level ; happily, therefore, the IUTs do not in fact merely serve to replace the first 2 years of conventional university education. The United Kingdom authorities seem aware of the need to encourage the transfer of students from universities to Polytechnics and Colleges of Education ; but the binary system may be thought to hamper these efforts somewhat (1). Emphasis is being put rather on mobility from one course to another (horizontal mobility). The majority of the universities themselves offer no possibilities of transfer and do not yet operate a unit-credit system. This makes it difficult to enable students to transfer freely from the Open University to one of the traditional universities. However, there is every reason to think that this situation will gradually change.

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(1) There is in fact quite a bit of movement accross the "binary line" and post-graduate studies frequently follow from first degrees taken in the other section.

In Switzerland there is the question of whether graduates from the Higher Technical Schools who wish to continue their studies at the Federal Polytechnic Schools should not be granted certain equivalences so as to enable them to shorten their studies.

The concept of mobility also includes the exchange of teaching staff among the universities and between them and other institutions. The working party found that such exchanges were not yet very common in the countries consulted. It should be noted, however, that the Regional Colleges of Norway recruit some of their teachers from among university staff and that there is also some movement in the opposite direction. University teachers are offered posts as associate lecturers or invited to act as examiners or advisers for college examinations.

3.1.3. Student counselling and guidance

In the course of its visits the working party became aware of the shortcomings of guidance and counselling services for students. In several cases, even, such services are completely non-existent. As pointed out in the "theoretical" part of this report, however, diversification is inconceivable without students being thoroughly informed of study opportunities and career prospects. Such guidance should be carried out in close collaboration with future employers. A guidance stage (generally during the first year) can be very useful, and the new French organisation of the first phase of the study courses and of methods of orientation and guidance could provide interesting findings. Nevertheless, judging from the experience of Keele University (United Kingdom) - where a year of basic general education was originally the rule - there is some risk that after this first year students may drop such subjects as mathematics and physics in favour of highly congested branches such as sociology and psychology. Consequently, guidance should have the following 2-fold purpose :

- helping students to discover what interests them and what they are suited for ;

- informing them which sectors offer them employment opportunities and which do not.

In any guidance work, however, it must never be forgotten that information on future needs and job prospects is difficult to obtain and is not always reliable. To prevent pure chance from having a decisive influence on a student's future, it is preferable to improve university and vocational training and guidance rather than apply a system of student selection whatever form it may take. The present surplus in certain branches does not, of course, always prevent a student from following his chosen course of study (nor should it). Once informed, a student should assume responsability for his choice.

Students require counselling not only with regard to subjects, courses and supervised work, but also - indeed, above all - on the type of tertiary education establishment and the branch of study to choose.

This guidance service should be provided to all students, not only to the few who come to seek information of their own accord. Guidance should be organised in close co-operation with secondary schools ; each university or similar institution should regard itself as responsible for guiding upper-secondary pupils in its area by providing them (and thereby their parents) with written information on tertiary education apportunities. Universities and other institutions should organise information seminars and open days. It is probably no bad thing to give students a certain amount of liberty and allow them to spend one or 2 terms following various

courses before opting for this or that branch, as this sometimes helps to shape their personalities. But, generally speaking, a limit should be set to such freedom, for university studies are very costly and students should not occupy the available places longer than necessary. The creation of a general guidance stage in all subjects would doubtless be a happy solution. An intermediate examination, at the end of the first year, would reveal whether a student was suited to his chosen course.

In the majority of countries, a certain animosity and mistrust may be detected on the part of students with regard to counselling services. They believe that the aim of such services is to integrate them with present-day society and manipulate them for the purpose of maintaining the establishment. In order to allay these fears, students themselves should be allowed to participate in organising and running guidance services.

3.1.4. Access to tertiary education

Although this point, in view of its importance, was closely analysed in all the countries consulted, we shall restrict ourselves here to making a few brief general comments and considering some special problems. This question is in fact covered by other activities of the Committee for Higher Education and Research (1).

In the experts' opinion, governments ought to try to let every citizen with the necessary motivation and ability have an opportunity of studying. A balance between offer and demand must be struck in higher education ; but only those who possess the necessary motivation and aptitude should be admitted. Normally, this would amount to restricting admission to holders of a secondary school leaving certificate ; but is such a certificate always meaningful ? There are various trends in favour of opening universities to new groups, regardless of the duration and type of their previous education. This principle of equality of opportunity is very important ; but at present such equality is non-existent : admission to universities frequently depends on the type of previous education, which thus serves as a selection criterion. A further result of this situation is that upper secondary schools lay too much emphasis on the knowledge likely to be required for university entrance, to the detriment of the intellectual "equipment" which, from a more general point of view, they ought to provide their pupils with. Although governments recognise that everyone should have a right to education, they have been unable to meet the various needs, owing to the unexpected increase in the number of students over the last decade. Nevertheless, new short-course institutions and new branches of study have rapidly been created though the distribution of students between traditional universities and these new establishments will largely depend on how the different types of courses are judged and assessed by the public (2). As measures of this type are insufficient to meet the growing needs, governments have had to contemplate selection procedures and in many cases, limit the number of entries ("numerus clausus"). It soon becomes apparent, however, that none of the present selection procedures allows of an accurate forecast of a student's degree of success in his university studies and, subsequently, in his chosen career. Nor do any of them appear to be objective and genuinely fair. It would after all be better to take account of the marks

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(1) See document CCC/ESR (73) 48.

(2) In Germany, for example, there are strict rules governing civil service appointments ; a student having completed a short course would not be eligible. Such practices obstruct the setting up of a diversified system.

obtained over the previous years rather than subject students to a sort of lottery. The introduction of university entrance examinations has also been considered ; but this is likely to induce upper secondary schools to over-concentrate on preparing their pupils for such examinations. As for intermediate examinations, they do not always have the desired selective effect ; for the majority of students are still attracted by long courses, which have greater prestige, and in the event of failure, they will try their luck a second time. One procedure consists in laying down what percentage of an age group may be admitted to the various branches ; but there is still the problem of deciding what individuals to select.

In reality, the problem of selection arises mainly out of the following reasons :

- the system of higher education is not diversified enough in order to correspond to the different abilities and preferences of students and to the needs of society.

- student counselling and guidance is inefficient.

- the regulations governing the study courses are too rigid.

- current assessment and evaluation of performance throughout the study course are not sufficiently organised in order to guide the students properly.

The problem of the over-production of university graduates is closely bound up with the state of society, which offers openings now in one field of activity, now in another. Such over-production need not always be regarded as a catastrophe. Some balance is spontaneously restored within society as new needs emerge. A state of intellectual unemployment must of course be avoided. It may be wondered whether France is right in continuing to regard it as a sacred principle that 90 % of secondary school pupils should be admitted to university. Above, all a student should be informed of the risks he runs by embarking upon this or that course of study and made to realise that, on leaving university, he will not automatically find a well-paid job which fully satisfies his aspirations. It is also important in this connection to repeat that higher education whould provide students with a training which enables them to adapt to changes in society, particularly in the professional sector.

Since education should serve to enrich a person's life and not merely prepare him for a specific career, as much consideration as possible should be given to individual desires. The resources available do not, of course, allow the number of persons studying for sheer pleasure and self-improvement to be increased indefinitely to the detriment of those wishing to enter a career for which advanced training is required. Finally, to restate the obvious : the policy of admission to higher education should be comprehensively reviewed in close connection with secondary education.

The working party further recommends that opportunities for sitting final examinations should in future be offered to persons who, for one reason or another have never been able to enrol as students, but who possess the necessary knowledge. In the 5 countries consulted, arrangements, in this matter range from free access to "numerus clausus". It emerges from the various reports on innovation in France that there is no intention in that country of abandoning the principle that only those in possession of the "baccalauréat" may be admitted to higher education. The Higher Education Act ("Loi d'Orientation") makes no provision for selection for the purposes of entry to higher education : all who hold an appropriate type of "baccalauréat" have to be admitted.

The present reform of upper secondary education in France will include special procedures for guiding pupils towards the different types of courses offered at higher education level. Already at present the first year at university is considered as a guidance and observation period. With regard to the IUTs, candidates are selected on the strength of their school results. Most of them possess one type of "baccalauréat", but there is a special entrance examination for those who do not (on an average, 2 % of students are admitted in this way). The number of IUT students is, however, limited ("numerus clausus"). Although the authorities are generally speaking in favour of admitting the largest number possible, this is primarily because of a lack of satisfactory selection criteria.

In Norway, the Regional Colleges have been forced to introduce the numerus clausus, because the number of applicants is constantly much higher than the number which can be admitted (due to lack of space, teachers, etc). Within the numerus clausus, the Regional Colleges admit many applicants not holding a formal upper secondary school leaving certificate. This is no longer something typical for the Regional Colleges, since the universities have recently opened the same p ssibilities for their applicants. Moreover, it was an open question whether students would accept the restrictions on entry to the colleges and the various selection criteria. It does seem, however, that the "numerus clausus" has been acquiesced in and will be maintained. The authorities are aware of the serious problem raised by uncontrolled admission to certain university branches which are already congested.

In Germany, the sharp rise in the number of students has prompted the authorities to make more and more use of a "numerus clausus". it is not easy to restrict admissions legally, however, as in the majority of "Länder" the introduction of a "numerus clausus" in a university requires a ministerial decreee issued at the University's request, and a certain number of clearly specified conditions have to be fulfilled before such a decision can be taken. A national "clearing-house" has also been created for students wishing to follow courses in subjects affected by a "numerus clausus". Students registering with the centre are distributed among the universities according to available places. The German authorities have also considered establishing a given percentage of students in each age group. The present figures (for example, 20 % in 1975) are based on pupils' requests and aspirations rather than on any scientific assessment of society's future needs. The fixing of such a percentage is not an entirely free decision, being of course conditioned by public funds. It is hoped that the "Gesamthochschule" arrangement will improve the situation through its flexibility and new branches of study (though it will still take some time to implement and there is still some uncertainty about its real effectiveness). However, the German authoritites are aware of the need to find other solutions ; but which ones ? Moreover, if, under the "Gesamthochschule" system, the standard for admission to non-university higher education establishments (such as the engineering colleges - "Fachhochschulen") is the same as for universities, students are liable to show a preference for the latter if their qualifications allow them any choice.

In Switzerland the problem of restricted entry has so far been avoided, but the situation is becoming more serious every year, and new solutions are being sought. The bottle-neck affecting medical studies was recently removed through the setting up of a system of priori enrolment (after the pattern of the German "clearing-house" system) and the distribution of students among the cantonal universities. But this in itself obviously amounts to a restriction on the choice of a place of study. In this context, reference may be made to the example of Paris, where, when the university of the masses was being split up, students had to be systematically distributed among the new universities : a clearly defined geographical area has been allotted to each establishment set up round Paris, and all first-year students are obliged to enrol at the university in whose area they live.

The policy basis for the provision of higher education in the United Kingdom is that any person with the requisite academic qualifications who wishes to proceed to higher education should have the opportunity do do so. Entrance restrictions are therefore primarily academic, with the highest standards generally being required by universities. The number of places available is determinad by assessements of how many are required to fulfil this policy. In the case of the Open University, there are no restrictions based on academic ability, but the total number of places available in any period of three years is specified by the government.

3.1.5. The training and recruitement of teachers

Teacher trainings is one of the most important aspects of the reform of tertiary education. It involves problems concerning structures, curricula reform, the introduction of new teaching methods and the use of new media. The working party proposes that the Committee for Higher Education and Research intensify its activities in this field.

In their discussions on teacher training for the tertiary level during the various visits, the experts had numerous comments to make.

The roles and functions of university teachers have changed. The universities no longer aim at producing a "finished product" (the graduate) ; it is now hoped that students will continue to learn throughout their lives (permanent education, re-training). Teachers must therefore be able to use different communication media according to the audience they are addressing. They should no longer restrict themselves to "giving lectures" and merely transmitting knowledge but they should supervise and guide students throughout their studies and organise their practical work ; they should inculcate in students certain aptitudes which will enable them to adapt to changing social circumstances. Teachers in tertiary education will in future be trained in methodology. They will also have to be capable of effectively sharing in the running of universities and their institutes. These various functions to be performed by a university teacher call for special training.

In the course of its discussions, the working party raised the question of the relevance of degrees and doctorates to the appointment of teachers. It noted with satisfaction that it is now possible in France to become a university teacher on the strenght of all one's publications, instead of solely on the basis of a thesis having required many years of preparation. It feels, however, that the completion of research work should no longer be the sole criterion for admission to a university career and that account should also be taken of candidates' teaching ability.

Mention was also made of the problems facing teachers as a result of multi-disciplinary teaching and mobility, these being 2 conditions of diversification. It is not rare for teachers to hesitate to become too involved in multidisciplinary teaching preferring to remain specialists, as their promotion and career mainly depend on the results of their research work in their chosen speciality. Moreover, research workers tend to retain their narrow specialist outlook event when they are incorporated in a multidisciplinary team ; teachers confine themselves to their speciality in order to obtain good results in what is frequently a very limited field.

Three factors, however, could help to change the situation in France :

- the new national diplomas in France can be awarded by universities only in respect of courses of a multidisciplinary nature ;

- students who now wield greater influence in university decision-making bodies insist on the multidisciplinary approach ;

- the National Consultative Commission, which deals with applications for university teaching appointments, is to undergo a reform. Its various divisions will be reorganised so as to include experts from several branches and specialities.

The teaching staffs of the IUTs are made up as follows : one-third are university teachers, one-third secondary education teachers and one-third members of other professions, mainly in industry. There is no legal distinction regarding the status of these 3 types of teacher.

The experts drew attention to several points concerning the recruitment of teachers for the Norwegian Regional Colleges. Was it not asking too much of such teachers to expect them to try to become "experts in educational innovation" and to ba familiar with all the needs of the region in which they worked, while devoting much time to helping their students ? Obviously, these new types of higher education establishment attract idealists from among university teachers. But this might not continue. Where will the next generation of Regional College teachers be found ? Would it not be possible, for example, to try to attract suitable people from the industrial sector ? As regards staff recruitment, the Regional Colleges are obliged - if they wish to maintain their standard - to employ staff who are qualified to teach at university level. Some teachers are already being recruited from the industrial sector, but this is hampered by the higher salaries in industry, with which it is difficult to compete.

The working party also turned its attention to the repercussions which the creation of the German "Gesamthochschulen" may have on the teaching profession. The promotion of non-university establishments through their integration may encourage them to adopt certain university pratices and ascribe too much importance, for example, to a person's tally of research publications ; whereas, as already stated, exclusive importance should be given to research activities in the recruitment of staff. Teaching ability, administrative qualities and sociability (for example, the ability to work in a team) are also important. It is to be feared that the staff of non-university establishments integrated with the comprehensive system will demand the same remuneration as university staff as well as more free time for research. Thought was also given to the problem raised for universities (particularly in Switzerland) by inequalities in the salaries and teaching and research conditions offered to the teachers in the different establishments ; this is a source of unhealthy competition between institutions.

As can well be imagined, the Open University encountered various difficulties in its early stages over the recruitment of teachers. No one felt sure what the outcome of this venture would be. Teachers at traditional universities were not much inclined to abandon their jobs for the sake of such a hazardous experiment. Nevertheless, a number were tempted and now appear content with their choice. The functions of a faculty's members are mainly to prepare course material. It should be emphasised that the Open University's "teaching staff" in the widest sense includes not only academics but technical staff. There are also local and regional counsellors and tutors responsible for maintaining liaison with the students. The university's staff work in close collaboration with representatives of the BBC. The enriching experience of contacts with students is not available to most teachers at the Open University but in its place is the intensive collaboration between teams of academics in the production of course material. Care needs to be taken, however, to prevent staff from feeling isolated through lack of student contact.

3.1.6. Research in a diversified system

What place can research occupy in a diversified system, where the accent seems at first sight to be put on teaching and where resources are limited ? What about the principle of the unity of teaching and research ?

In contemporary research there is an inescapable need for specialisation and differenciation, while co-operation and integration are increasingly essential to counter-balance specialisation and the dangers it entails ; moreover, there are ever-growing requirements as regards staff, structures and funds. Although the conventional universities do not always have the flexibility needed for research and for the investigation of new concepts and problems as soon as they arise and promise to be fruitful subjects of study, they do offer numerous advantages which militate against the much canvassed idea of dissociating teaching and research ; on the contrary, everything should be done to rid them of any obstacles in the way of research. The German solution, which also seems to be catching on in Switzerland, namely the creation of priority research sectors ("Sonderforschungsbereiche") constitutes an effort to modify the existing university structure and overcome the difficulties confronting research in higher education establishments. This arrangement is, moreover, fully in line with the requirements of diversification.

There are several aims behind the creation of priority research sectors. The idea is to concentrate effort, promote co-operation among research workers and the various research institutes, rationally co-ordinate specialised sectors, set up efficient research units in the universities and simultaneously, increase financial aid to research. In the interest of profitability, maximum use needs to be made of costly research equipment in the form not only of apparatus but also of specialised collection and libraries. If research is to be prevented from deserting higher education establishments for other institutions, the former must have larger and, above all, more efficient research units. This will entail establishing research priorities, since it is not possible, for reasons concerning staff and funds, to develop all university subjects and research installations to the same degree. In this way, a distribution of labour will be achieved. But this, together with the co-ordination of research will call for co-operation from all universities and research centres which is not easy to impose from above.

In view of the meagreness of resources, it would seem essential, despite the difficulties, for any serious research planning to include the possibility of withdrawing financial aid from certain research teams. A transitional period of decreasing subsidisation might be imagined. Of course there may be other ways besides of setting up important research teams - to facilitate the training of young research workers ; the most formal procedures do not necessarily suit all disciplines. Within the framework of an overall policy defining the objectives a diversified system will be necessary.

It is not always easy to persuade research workers to devote their efforts entirely to new or hitherto neglected areas of study, for they fear that at the end of their contracts, they will find themselves unemployed. On occasion, therefore, a qualified team should be given official status accompanied by certain minimum guarantees.

With regard to the dissemination of research findings, this should be done rapidly in order not to delay any possible applications. The right of access to such findings ought to be discussed at European level. A number of questions remain open, viz : when research projects are publicly financed, who owns any discoveries made ? In the case of research financed by industry, should the latter have a prior claim to the results ?

In the course of their visits, the experts also turned their attention to the role of research in new short-course establishments. They found that teachers in the Norwegian Regional Colleges did not all have research experience. Although not obliged to do such work, they are encouraged to devote a certain time to research and development. Two facts clearly illustrate the role of such colleges in the field of research :

- Research workers do not have any special status and wield no authority ;

- The Regional Colleges are too small to be able to undertake costly research in the field of the natural sciences ; they therefore have to concentrate on the social sciences. In practice, the part they play in research is still fairly limited. Nevertheless, a large number of research projects are being carried out in conjunction with university departments.

The important reform of the studies leading to a doctorate which is at present going on in France seems to reconcile the principle of strictly organising research teams with the necessity of diversifying any such organisation according to the different subjects and themes of research.

The French IUTs, for their part, do not engage in any research work. The United Kingdom Polytechnics appear to give more emphasis to teaching than to research. Moreover, research at British universities frequently depends on the preferences and interests of the teaching staff, whereas the Polytechnics are more inclined to adapt their research work to the needs of industry and commerce. It is unlikely that the Polytechnics will become centres of fundamental research comparable to the universities.

3.2. Planning in tertiary education

3.2.1. At national and regional levels

Experience has shown that none of the desirable and necessary reforms in tertiary education can be implemented without comprehensive planning. This should be strategic rather than operational. Its purpose should be to lay down general guidelines and create a situation favourable to innovation, but it should not dictate individual operational measures. Nevertheless, one must bear in mind that the increasing need for administrative control as well as the rational and effective use of limited resources call for structures which do not always foster innovation and personal initiative. Planning should serve as a basis for policy-making and be considered as a learning process. While sharing common principles, requirements and aims, the various countries should nevertheless devise planning machinery of their own which takes account of their traditions and culture. Thus in the Federal Republic of Germany and Switzerland which are federal-type countries, greater co-ordination of planning and decision-making is being sought at national level to the extent compatible with the diversity of the "Länder" and cantons ; at present, planning is at the introductory stage. In France, on the other hand - within the framework of the overall guidelines defined by the Ministry in co-operation with the National Council for Higher Education and Research and the Conference of the Presidents of the French Universities - the trend is towards decentralisation. In the United Kingdom, there may be said to be 2 areas of planning, one for the universities (University Grants Committee), the other for the Polytechnics and other non-university colleges. If difficulties are encountered initially, it seems highly advisable to concentrate planning and innovation temporarily on those sectors of tertiary education which lend themselves most readily to such treatment. This is the case with the Norwegian Regional Colleges and the Polytechnics. One aspect of planning is obviously the

geographical distribution of higher education establishments, although this is a problem of diversification only in as far as the system includes all or most of the tertiary education institutions in a country or region. Planning then becomes a question of promoting the development of this or that establishment and creating new centres. Local political pressures should not be allowed to lead to the creation of idiosyncratic institutions which are too small to be efficient. While it seems almost impossible to close down establishments whose standard and efficiency are unsatisfactory, it is still possible to limit their growth and to transform and improve them. The working party holds the view that new institutions should be set up wherever the necessary infrastructure already exists. It seems essential to devote increasing attention to improving the division of labour among the various regions of a country. While each region should be encouraged to provide a sound basic education of a multidisciplinary kind, specialist courses should be allocated among establishments in different regions, so as to serve as centres of gravity based on local traditions and academic features. Most countries are making efforts along these lines. In Germany, the Joint Commission on University Buildings ensures that all regions possess comparable basic facilities, but the "Länder" which enjoy great autonomy and pay a large share of the costs, tend to give priority to educational establishments specialising in the cheaper branches. In Norway, the planning of tertiary education is closely bound up with regional planning in order to take account of population trends and the need for student places and university staff in the various towns and regions of the country.

Although conscious of the limited financial resources available, the experts regretfully feel justified in saying that planning and decision-making in tertiary education are all too often and all too greatly conditioned by fund allocation arrangements. Funds for specific purposes should be allocated by persons responsible for teaching and research, whereas general allocations may be left to politicians or financial authorities.

The experts also felt that global planning would only be of real value, if each individual institution were given the freedom of planning its own activities and of evaluating the results of its policy.

3.2.2. At the level of the individual institution

As mentioned in section 3.2.1, planning should be strategic rather than operational. It is not incompatible therefore with a certain degree of autonomy for tertiary education establishments.

Full autonomy, which does not in fact exist anywhere would mean complete liberty of action in the following fields, among others :

- recruitment, appointment and promotion of teaching staff ;
- election of university authorities ;
- admission and selection of students ;
- internal organisation and structure of the establishment ;
- decisions on the content of courses, the qualifications to be required and the diplomas to be awarded ;
- teaching and examining methods ;

- choice of research projects and establishment of priorities ;

- allocation and spending of funds from outside.

It goes without saying that, for all the reasons which may be deduced from this report, only a limited measure of autonomy can be granted to a higher education establishment within an integrated diversified system.

When recruiting teachers institutions ought to enjoy wide liberty within the framework of the professional requirements laid down by the government or other bodies ; the minimum qualifications required for the various posts should be flexible or allow for exceptions.

The state should not have the right to transfer teachers from one establishment to another without their agreement. In cases of disagreement, an attempt should be made to settle the matter inside the institution without state intervention.

Regarding the admission of students, the working party believes that, in order to guarantee equality of opportunity, it would be preferable for admission criteria and, where there is a "numerus clausus", student quotas to be fixed at national level.

It is also realised that establishments cannot be given a completely free hand in determining the content or length of courses or stages. Too much freedom in this field would run counter to any measures taken by national or regional authorities to facilitate student mobility ; nor would it guarantee that the different courses were of equivalent standard (1). This problem, incidentally, goes beyond the limits of any one country and the same is true of qualifications required for examinations. Further, each institution should have the necessary autonomy to be able to close down any particular department or section which no longer fulfilled any need.

The working party feels that the tendency to grant establishments some autonomy in the spending of funds allocated to them deserves to be encouraged. The government need not specify in detail the amounts to be given to each department. This should be left to the institution itself. This presupposes however the setting-up of competent and objectively-minded university administrations as well as co-ordination at national level. The grant of special funds to stimulate new developments should be done by the government, which may also exercise supervision over all funds allocated.

Thus, the main idea is to strike a proper balance between the government's concern to promote the development of tertiary education and the wish of establishments to have some say in their choice of teaching and research priorities. Institutions in which, thanks to a certain measure of autonomy, new ideas come to light should make them known to the authorities so that other establishments may benefit from them. This is the case with the Norwegian Regional Colleges which are autonomous establishments, although they belong to a general system of higher education enabling students, teachers and funds to be transferred between various

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(1) One possible arrangement would be for the state to recognise all courses in a specific field on condition that specialists from the universities concerned had previously got together to examine their actual content in detail.

institutions and fields of study. They enjoy considerable freedom with regard to internal organisation, curricula and methods and are encouraged to take initiatives. Subsequently, they will be given complete responsibility for curricula, although the Ministry will no doubt have to influence the choice of priorities through its allocation of funds.

An institution which has a certain amount of autonomy, particularly financial, may be required to draw up plans for its premises and facilities with a view to better use being made of them. This is the aim of several studies being conducted at the Zürich Federal Polytechnic School, which are already resulting in various practical measures. It has been realised, for example, that it is advisable to leave university institutes or departments free to allocate their funds either to salaries or to the purchase of apparatus and equipment or to the renting of premises. Experience has revealed that it is not always convenient to ensure optimum use of premises by obliging teachers and students to keep moving from one lecture room to another. It has also been found that departments often tend to ask for more space than they really need as a result of which their premises remain partially unused. This must be combated by means of greater openness.

3.2.3. Participation

Participation is not an end in itself and must not be made a dogma. It contributes towards diversification and innovation by giving various groups an opportunity to express their opinions on the problems raised by tertiary education today. It should not be forgotten however that participation of a misconceived and ill-organised kind may place a serious obstacle in the way of diversification as it may result in long complicated procedures, the postponement of urgent decisions and the stifling of good ideas. Participation should not therefore be regarded as a "democratic pretext". Although participation did not always produce the hoped-for results to begin with, it is indispensable that the various groups within a higher education establishment as well as representatives from outside should be associated with discussions and sometimes with decision-taking. Despite the misgivings of some students, it seems desirable, for example, to allow industry, professional associations and future employers to have some say in curricula reform. The French IUTs, for their part, frequently call in professional people from outside for teaching purposes, while the Norwegian Regional Colleges ask persons from various walks of life to act as examiners ; the latter also help to arrange curricula. The same is true of the British Polytechnics which, as already noted, have close ties with local industry. The reform of the second phase (second "cycle") of the study courses in France is also very interesting from this point of view.

Student participation, after all the equivocation and arguing to which it has given rise, does improve the efficiency of universities. It is very difficult however to achieve participation in the broader sense, ie to make every student feel responsible for his university.

3.3. Some thoughts on curricula reform and development

Experience has shown that curricula reform and development is even more important than the reform of the structures and organisation of tertiary education. It depends on and is the product of active participation by teachers and students, for it is they who are best acquainted with the weaknesses and advantages of the system and can help to get innovations put into practice. The ref orm and development of curricula should be organised in such a way as to constitute a continuous process of diversification. The authorities should take whatever measures they can to ensure a favourable climate for this process : they might for instance grant certain benefits to an establishment's staff who are actively involved in reform projects. Moreover, as long as promotion in the academic field continues to depend mainly on research activities, university staff cannot be expected to take much interest in curricula reform and development. Although the main responsibility in this matter lies with educational institutions themselves, greater contact should be established with the outside world. Representatives of industry and administration should be consulted by reform committees and even allowed to take part in their work ; but they should be

selected by the educational establishments and government authorities and not delegated by powerful pressure groups. Tertiary education must be integrated with the rest of society.

3.3.1. Curriculam content and teaching and learning methods

The subject of curriculum content and teaching and learning methods is a very wide one requiring a thorough analysis of its own. In the course of its visits, the working party examined various national schemes which are briefly outlined below. Other working parties of the Committee for Higher Education and Research are also dealing with these questions.

Curricula are designed to meet various requirements and serve several purposes. They should be altered in the light of advances in knowledge and changes in human needs and professional requirements. They should also be adapted to new teaching and learning methods, which should in turn be adjusted to their content. These methods are based on the principles of inter and multidisciplinarity. Use should be made as far as possible of multi-media distant study systems.

As most students will have received different forms of training in various types of secondary establishment, the first year of higher education should be devoted to general studies in order to ensure greater homogeneity from the outset. Specialisation should not come until the second year. This is the case with the French IUTs, which are nevertheless criticised for a certain rigidity which may produce an outlook similar to that prevailing in secondary schools.

The Norwegian Regional Colleges, for their part, have four types of curriculum :

- basic curricula in the traditional university subjects ;
- curricula which give fresh substance to the traditional university subjects and are designed to meet regional needs ;
- curricula relating to matters which the universities have not yet tackled (eg tourism and transport) ;
- curricula relating to specific fields which may also interest university graduates (eg maritime economy and environmental studies).

Efforts are being made in these colleges to integrate theory and practice by teaching students to apply their theoretical knowledge to the solution of practical problems. Moreover, students have greater freedom to combine subjects than in the traditional education system. The teaching and learning methods used in these colleges are often different from those at university. Students are given wide responsibility for their own studies. They are more or less free to decide for themselves what problems to study and what material to consult. They can choose when to meet in groups, how to distribute work among themselves and when to consult their teachers. They learn to discover and analyse problems, to track down the necessary information, to assess problems according to their own scale of values, to suggest solutions, and to share in their teachers' research work. As regards the British Polytechnics, although some of their courses are similar to university ones, their curricula are mostly aimed at preparing students for a career.

Generally speaking, the working party feels that the experiment now being conducted in the Norwegian Regional Colleges is a very sound example of reform.

3.3.2. Assessment methods and examinations

Here again, most new ideas seem to be found in the Norwegian Regional Colleges. These establishments enjoy very considerable freedom concerning assessment and examinations. They decide for themselves in what subjects examinations should be

set and what form tests should take ; there is no centralised system and the colleges are encouraged to try out new types of examination. In some of them, group examinations have been instituted : here, students work together in groups of three or four for a fortnight ; they are assigned a task similar to one which they would have to carry out in practical life and they have free access to libraries and other facilities.

Conventional examinations, both written and oral, are also sometimes used ; but these may be replaced by written work extending over a certain period. In some cases, group examinations are the only form of test used. Students are consulted on the type and content of such examinations. The group (three or four persons) either passes or fails as a whole ; there are no individual marks. If a group has failed, its members may nevertheless apply to sit an individual oral examination. This method acts as a stimulus : since the students do not know how the groups will be made up for the end-of-year examination, they all try to obtain the best results during the year. The working party wondered whether this method allowed a student's individual level of knowledge to be verified. The Norwegian authorities appear to consider this aspect as secondary, for the method makes it possible to ascertain other important talents and aptitudes, particularly of a social kind, which are difficult to assess by means of conventional examinations (ability to solve problems with the help of text-books and other sources of information, to work in a team, distribute work, etc).

Apart from this experiment, to which special attention was devoted, the working party wishes to emphasise in this connection the importance of the problem of student wastage and suggests that efforts should be increased to devise short courses and other arrangements for students who "drop out". Even those who fail are bound to have acquired some knowledge and developed certain aptitudes while at a tertiary education establishment ; they should consequently be awarded some kind of certificate to enable them to find a job.

3.3.3. Final qualifications and employment and career prospects

Contact with the outside world must be established if future employers are to know early on what the introduction of short study courses signifies. In the United Kingdom, it seems that some employers may still prefer graduates from the traditional universities. It is to be hoped that the situation will change however for in most of the countries consulted the demand for qualified staff in certain sectors is growing and cannot be completely satisfied by the number of graduates from conventional institutions ; thus, posts which have hitherto been occupied by university graduates will be filled by people who have successfully undergone new types of training. Not too much importance should however be given to the various suggestions from professional quarters, which are frequently contradictory : some wish graduates to display intellectual agility and be capable of adjusting to new situations, whereas others prefer them to have as specific knowledge as possible on entering their careers.

As already stated, one of the aims of higher education of the shorter kind is to meet needs which cannot be satisfied by the conventional education system. Another is to provide short courses for those who wish to train for certain careers, some of which were traditionally restricted to university graduates. It does not seem easy however to channel more students into short courses. This is true, for instance, in Germany where so far almost 50% of fields of study (law, pharmacy, medicine, etc) are regulated by the state, the other 50% being the responsibility of the establishments ; accordingly, it has not even yet been possible to determine the exact place of the short course in the present system ; nevertheless, everything still hinges on the implementation of the "Gesamthochschule" concept. Further, present regulations on recruitment and promotion in the civil service and the teaching profession are still too rigid : the senior grades are reserved for people who have received higher education of the longer type ("Berechtigungswesen"), while those who have spent less time at an institution of higher education have more

difficulty in obtaining promotion, even if they are highly qualified professionally. The Finance Ministries of the "Länder" are reluctant to follow the Norwegian example (which will be dealt with later) and pay persons who have attended short higher education courses more or less the same salaries as those having taken long ones. In Norway, both the Ministry and Parliament laid down stringent requirements regarding the quality of teaching at the Regional Colleges when they were being set up. It is expected to be as good as that provided by the universities for students of equivalent standard. So far, graduates from the Regional Colleges have had no difficulty in finding employment and obtaining salaries fairly similar to those of university graduates, and sometimes even higher (eg data-processing specialists). This situation is perhaps partly due to the fact that society in Norway has always been of a fairly egalitarian type. In actual fact, graduates from the Regional Colleges are no less qualified than their university counterparts and the majority of them embark upon a professional career as soon as they have obtained their degree. Firms have been found to prefer employing persons trained locally. The Regional Colleges - with the assistance of the Ministry, Parliament and the universities - will of course have to continue their campaign to publicise the degrees they award. Their graduates are eligible for civil service appointments but only the future will tell if they are given the same promotion opportunities as their colleagues who have received a conventional university training.

3.3.4. Comments on the teacher training systems in the United Kingdom and the Federal Republic of Germany

It was considered appropriate to end this section with some comments on the new teacher training systems in the United Kingdom and the Federal Republic of Germany which reflect fairly dissimilar approaches. As in numerous other countries, it was realised some years ago in both the United Kingdom and Germany that the current training systems had serious shortcomings.

In the United Kingdom teacher training is shared by the colleges of education (three or four year concurrent courses of education and professional training) and the university departments of education (a one-year course in education - also offered in some colleges of education - after a three-year degree course). As, over the present decade, the number of newly-trained teachers required to meet the needs of the schools will decline very substantially, the opportunity has been presented to the colleges of education of diversifying their activities and offering various forms of higher education other than teacher training. Some of them will be able to do so as independent institutions while others will more appropriately be merged with polytechnics or colleges of further education.

These institutional changes will be accompanied by changes in the pattern of courses in teacher training. The government has announced its aim of working towards the achievement of a graduate teaching profession and its support for the promotion of new three-year courses incorporating education studies designed to lead to the award of an Ordinary B Ed degree and the status of qualified teacher, with opportunities for students attaining a sufficiently high standard to continue for a fourth year to take an Honours degree. Two-year courses are also to be developed, leading to a Diploma of Higher Education, which could be either a terminal qualification or a stage leading on to a degree or other professional qualification. The Diploma courses will not be confined to intending teachers but may well in suitable cases form part of a B Ed degree course. The new degrees and diplomas offered in non-university institutions will be validated either by universities or by the Council for National Academic Awards (CNAA).

In the Federal Republic of Germany, teacher education has hitherto been dispensed by "Pädagogische Hochschulen" for elementary and main schools and by the universities for secondary schools leading to higher education. Experience has shown

that students at the former institutions receive sound teacher training but spend less time on other subjects, whereas the contrary is true of students at the latter. Although responsibility for teacher education lies with the "Länder", there is a certain amount of co-ordination now taking place and the stage has been reached when general principles consistent with the "Gesamthochschule" concept may be laid down. According to the reform project, teacher training will no longer be given by different types of higher education establishment. It will be intended to form an indissoluble whole and therefore be entrusted to the "Gesamthochschulen" (1). Above all, there will be as much scope as possible for transfers from one type of course to another. Integration of these different types of training does not however imply the production of "standard" teachers capable of being employed anywhere - and hence suitable for nowhere. The system will be integrated but diversified. Care will also have to be taken to ensure that teacher training does not constitute a ghetto-like sector within the "Gesamthochschule" ; it will need to be thoroughly integrated so that students may easily move from one branch of study to another. Further, the "Gesamthochschule" will be responsible for not only theoretical but also practical teacher training. This presupposes the integration of the different higher education establishments - necessitating expensive legislation - and the formation of teaching and research units ("Fachbereiche").

In this context it must also be noted that the future German teachers will - according to certain plans - no longer be trained for different types of schools but for different age groups (Stufenlehrer).

(1) This is at least the concept favoured by the Federal Government and some of the Länder.

4. CONCLUSIONS

The working party on diversification of tertiary education is pleased to note that the majority of the countries consulted have already taken various measures to meet the new needs of modern society, or are on the point of so doing. There are many difficulties, as has been seen, and approaches to them are fairly often different. But the goal remains the same for all : to offer the public new educational opportunities and allocate the limited resources more wisely.

Tertiary education should not however merely be adjusted to the demands of modern society ; it is itself one of society's driving forces.

The working party holds the view that the obstacles standing in the way of a diversified system, whether they be political, cultural, social or financial in nature, need to be thoroughly analysed. It also believes that the development of the more interesting national schemes now in progress should be systematically monitored. A small group of two or three experts could perform these tasks.

The working party also ventures to propose that the Committee for Higher Education and Research should commission an expert study of situations in other member states, in order to throw light on further schemes in this field. Afterwards, a comprehensive inventory of possible solutions could be drawn up, indicating their advantages and drawbacks, what results were anticipated from them and what results have actually been obtained.

As for the working party on diversification of tertiary education itself, the experts feel that its composition and size as well as the working method adopted have proved entirely satisfactory ; the only debatable point is whether its terms of reference were not rather too wide to be carried out at a two-day meeting in each country. The experts were aware of the limits of their work, which was designed to produce some comments on a number of fundamental questions ; but the invariably lively discussions in which they took part during their visits often had to be interrupted at their culminating point owing to lack of time.

A N N E X E I

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Annexe I

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APPENDIX II

List of documents

FRANCE

CCC/ESR (71) 96	Création d'une maîtrise de sciences de gestion dans l'enseignement supérieur français (texte de l'arrêté - français seulement)
CCC/ESR (72) 1	The university institutes of technology
CCC/ESR (72) 3	New study courses in higher education and the role of the new Master's degree in science and technology
CCC/ESR (72) 4	The practical application of the new study courses in science and technology at the University of Science and Technology of the Languedoc (Montpellier)
CCC/ESR (72) 6	The new study courses in management.
CCC/ESR (72) 19 rev.	The general framework of the French Higher Education Act (Loi d'orientation) and the institutions resulting from it
CCC/ESR (72) 27	Higher Education Act, 12 November 1968
CCC/ESR (72) 43 rev.	The new study courses in the humanities and the experience of the University of Paris 10
CCC/ESR (72) 44 rev.	The new organisation of the universities in the Paris area, and the problems connected with it

NORWAY

CCC/ESR (72) 98	Petroleum engineering education Information note on petroleum engineering education in Norway and elsewhere, and on a three year degree course offered at the Regional College of Stavanger. (Rogaland Distriktshøgskole)
CCC/ESR (72) 100	Short-cycle higher education in management (The example of a two year's study course in business administration offered at the Regional College of Stavanger (Rogaland Distriktshøgskole)
CCC/ESR (72) 101 rev.	The regional colleges (Distriktshøgskoler)
CCC/ESR (72) 106	Higher Technical Education Information note on the three year diploma course for engineers at the Regional High School at Stavanger (Rogaland Distriktshøgskole)

FEDERAL REPUBLIC OF GERMANY

CCC/ESR (73) 19	The concept of the comprehensive (Gesamthochschule)
CCC/ESR (73) 24	The planning and implementing of projects for new buildings in tertiary education in Baden-Würtemberg
CCC/ESR (73) 25	The planning of higher education at national level
CCC/ESR (73) 29	Teacher education within the framework of comprehensive higher education
CCC/ESR (73) 30	Courses of study in the engineering sciences at comprehensive universities
CCC/ESR (73) 31	The role of the German universities in the planning of tertiary education at national level.
CCC/ESR (73) 34	The planning of higher education at national level.
CCC/ESR (73) 35	The overall planning of tertiary education in the Land of Baden-Würtemberg
CCC/ESR (73) 36	General problems in university research.
CCC/ESR (73) 78	Research in special research centres
CCC/ESR (73) 52	Inter-university co-ordination and national regulations on university admission
CCC/ESR (73) 53	Planning at the Federal Polytechnic of Zürich
CCC/ESR (73) 54	The Swiss Curriculum Reform Committee, aims, experience and results.
CCC/ESR (73) 55	The Federal Polytechnic of Zürich
CCC/ESR (73) 57 rev.	Organisation and trends of Swiss Research Policy
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CCC/ESR (73) 77	Multi-media distant study systems in higher education (Open University)
CCC/ESR (73) 82	The development of teacher education in the United Kingdom
CCC/ESR (73) 83	Student guidance and counselling

PUBLICATIONS OF THE COUNCIL FOR CULTURAL CO-OPERATION

in the same section - Higher Education and Research

EDUCATION IN EUROPE

The teaching of physics at university level (1967)

COMPANION VOLUMES

Non-university research centres and their links with the universities (1967)

Reform and expansion of higher education in Europe (1967)

European research resources : Assyriology (1967)
Radio-chemistry (nuclear chemistry) (1967)
Geography (1968)
Radio-astronomy (1968)
Photochemistry (1970)

Mobility of university staff (1973)

Reforms and new trends in medical undergraduate education (1973)